



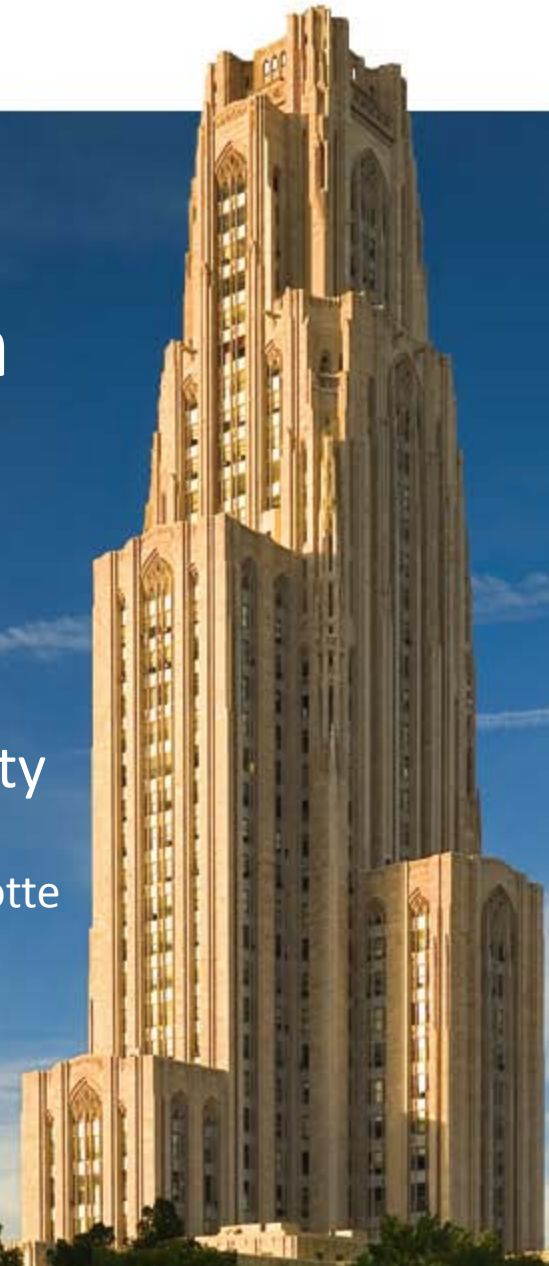
University of Pittsburgh

# Risk-Specific Garbing Procedures for Non-Human Primate Facilities

University of Pittsburgh

Department of Environmental Health & Safety

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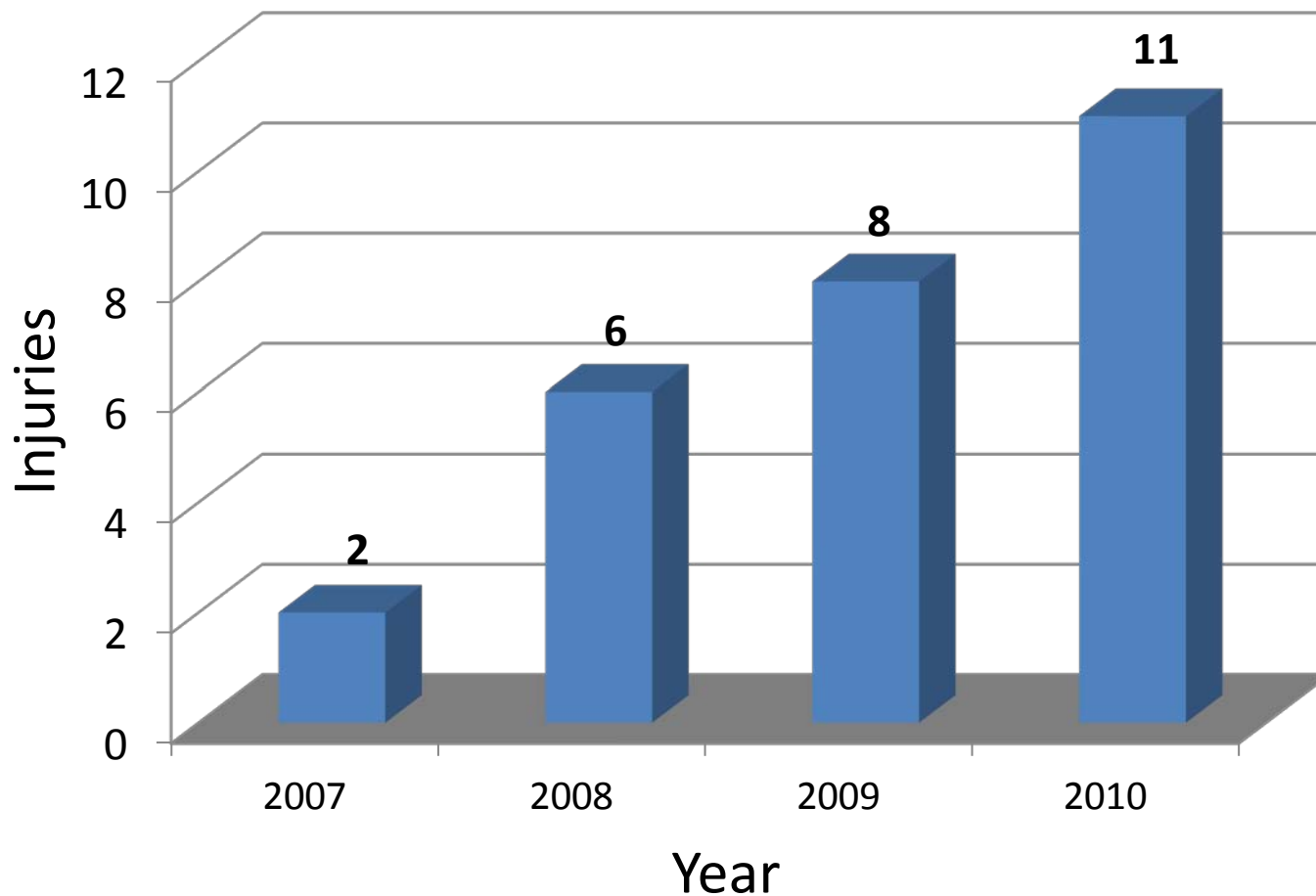
# Garbing procedures for Non-Human Primate (NHP) Facilities prior to April 2011

- **Driven by the highest risk procedure in NHP Facility**
- Within one NHP behavioral area this included:
  - Liquid barrier coverall suit
  - Gloves
  - Multiple shoe covers
  - Surgical masks
  - Safety goggles or glasses
  - Hair bonnet





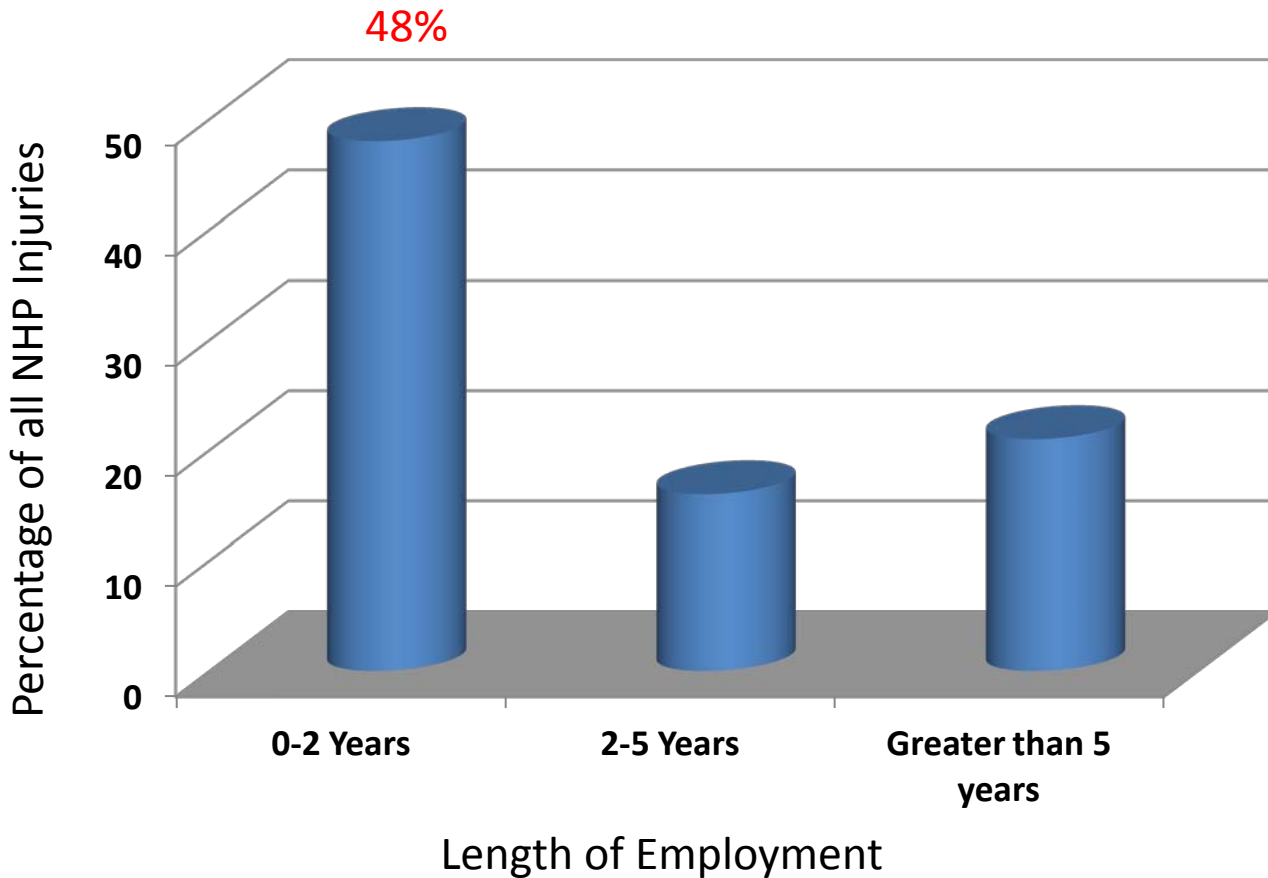
# April 2011: Non-Human Primate Associated Injuries Among Behavioral Researchers





# April 2011: Non-Human Primate Injuries

## Non-Human Primate Injuries By Length of Employment





## Prior to April 2011

Garbing requirements driven by the highest risk procedure  
in the Non-Human Primate facility

**Pros:**

- Simplified training and compliance

**Cons:**

- Investigator perceived challenges (no flexibility to account for different facilities or types of procedures)
- Less opportunity to implement preferred Personal Protective Equipment (e.g. reusable lab coats vs. disposable)
- May contribute to reduced contact between mentors/supervisors and research staff

**Most senior staff expressed the sentiment that there is no substitute for hands-on, supervised experience under a mentor.**



# Risk Assessment Relating to Garbing Procedures: Methods

- Comparison of procedure-specific risk assessment and minimum PPE required by outside programs.
- Comparison of outside programs to current procedures performed.
- Newly developed PPE recommendations.



# Risk Assessment

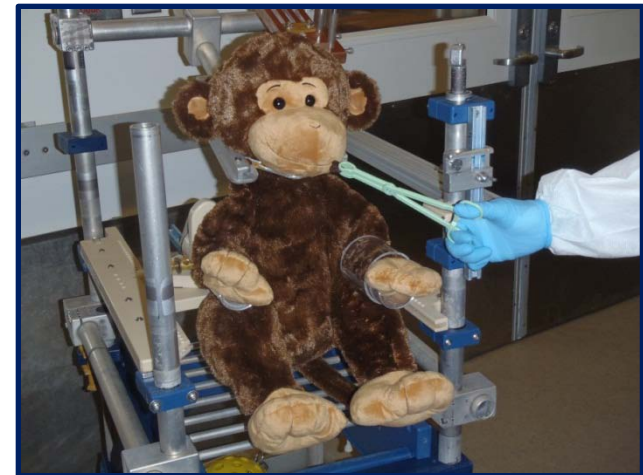
- **High Risk: Procedures that aerosolize NHP wastes/fluids or generate potentially contaminated fluids at either high velocity or high volume**
  - Hosing down caging and restraint equipment
  - Work in animal holding rooms
  - Direct contact with unrestrained animals
  - Use of drills (dental or surgical)





# Risk Assessment

- **Moderate Risk: Any situation/procedure that requires working with a restrained NHP**
  - Chairing a non-human primate
  - Feeding or giving treats
  - Minor procedures (phlebotomy, physical exam, etc.)
  - Providing surgical assistance

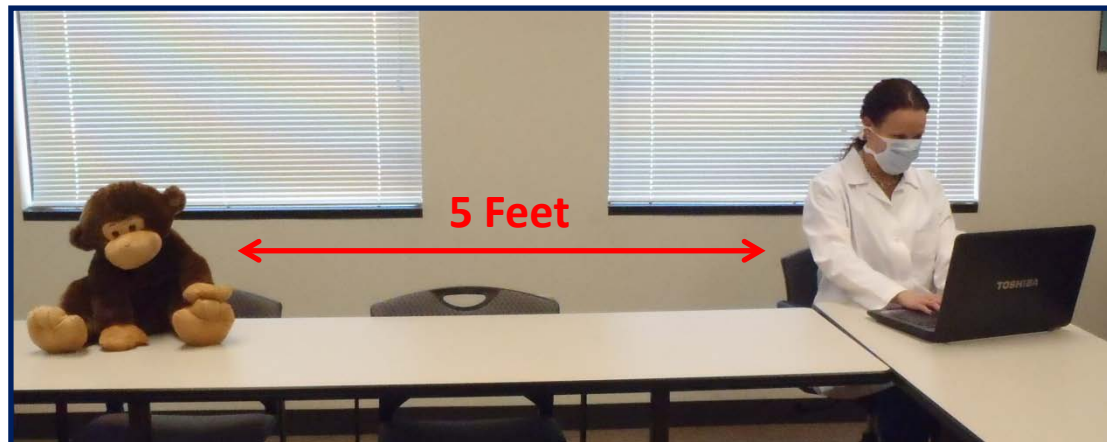






# Risk Assessment

- **Low Risk: Any situation/activity in which a restrained NHP may pass briefly with no direct contact**
  - Walking in facility hallways
  - Working in a separate room from non-human primates
  - Working in the same room but more than 5 feet away from restrained non-human primates





# Risk Assessment and Corresponding Garb

## Low Risk

Any situation/activity in which a restrained NHP may pass briefly with no direct contact

## For Example....

- NHP Behavioral testing
- Data analysis in a separate room from non-human primate testing





# Risk Assessment and Corresponding Garb

## Moderate Risk

Situations/procedures working directly with NHPs restrained in a cage or NHP chair, or minor non-surgical procedures with anesthetized animals

### For Example....

- Chairing
- Treat feeding





# Corresponding Garb

## High Risk

Procedures that aerosolize NHP wastes/fluids or generate potentially contaminated fluids at either high velocity or high volume

## For Example....

Hosing down cages and restraint equipment





# Observations: Positive Indicators

- + Animal handlers tended to wear more than minimum required Personal Protective Equipment (PPE)
- + PPE was readily available
- + Researchers and Animal Care Workers indicated a more frequent presence of senior staff



# Observations: Areas for Improvement

- PPE choices were often dependent on the “personality” of the non-human primate being manipulated; NHP personality traits were not documented
- Certain types of PPE cause adverse NHP reactions
- Non-human primates dislodge face shields
- Conditions in non-human primate housing and testing rooms lead to unpredictably slippery floors



# Recommendations based on Observations

- Bite-resistant gloves when working with lightly anesthetized animals
- A record keeping system to identify escalated risks and aggressive animals
- Slip-resistant shoe covers
- Size-appropriate PPE
- Safety goggles instead of face shields to minimize dislodging





# Training Courses developed as a result of the information learned from this and other University NHP Safety initiatives:

## 1. Non-Human Primate User Safety Training

- Required annually for all individuals who come in contact with non-human primates (PI, researcher, veterinarian, animal care)
- Discussion-style training

## 2. Risk-Specific Garbing Training

- Risk-assessment based





# Non-Human Primate User Safety Training



Discussion style: "What's Wrong With this Picture?"



# Risk-Specific Garbing Training

- **How to assess risk associated with tasks**
  - Aerosols
  - Proximity to NHP
  - Contact with contaminated surfaces
- **Connecting the level of risk with appropriate PPE**
  - Low/Moderate/High
- **A reminder to reassess risk**
  - Anticipated tasks vs. tasks actually being performed
  - Additional risks associated with work
  - Unanticipated biological hazards
- **Mnemonic C.L.E.A.R.**



# Risk-Specific Garbing Training

**C**onsider the work that will be performed

**L**evel of Risk

**E**quip yourself with the appropriate PPE

**A**ssess ongoing tasks inside the Animal Facility

**R**e-evaluate choice of personal protective equipment

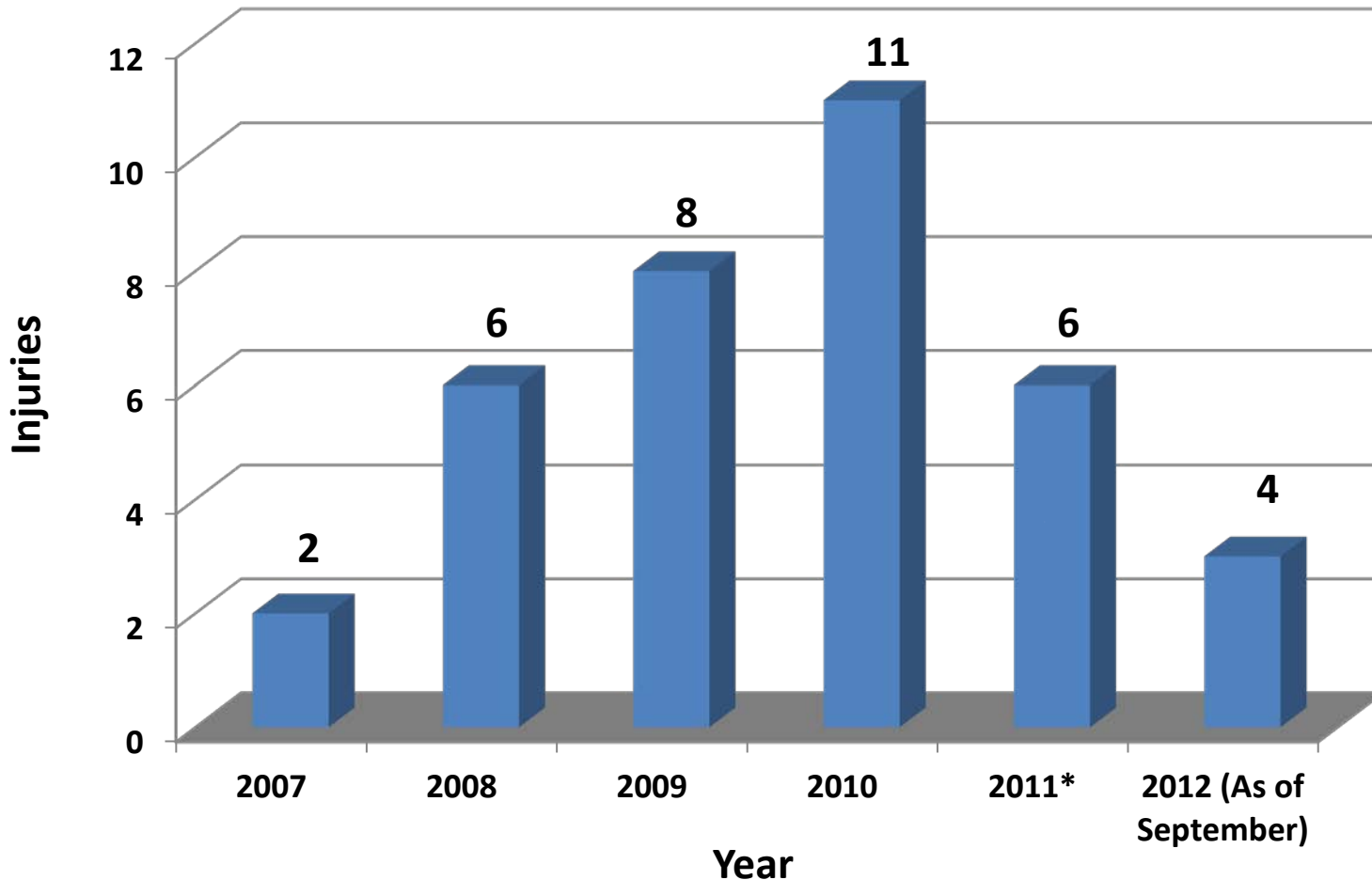


# Conclusions

- **Enhanced Communication**
  - Opened a dialog between animal care staff and EH&S
  - Safety tips are shared between facilities by EH&S
- **Enhanced Understanding**
  - Increased situational awareness
  - Increased ability to identify risk
- **Enhanced Satisfaction**
  - Increase in mentorship by senior staff
  - Perceived increase in senior staff presence within the animal facility
- **Enhanced Safety**



# Conclusions: Enhanced Safety



\* Two injuries in 2011 occurred prior to the implementation of the risk-specific garbing procedures in April



# Acknowledgements

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Thank you for your time!

